

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(s): Ruutu et al.
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ATTORNEY
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Commissioner of Patents
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APPELLANTS' BRIEF (SUBSTITUTE)
(37 C.F.R. §1.192)

This substitute Appeal Brief is in response to the Notice of Non-Compliant Appeal Brief mailed October 11, 2006. The examiner rejected this Appeal Brief as non-compliant with version 37 CFR 41.37 in effect as of 2006 despite the fact that the original Appeal Brief was filed on December 13, 2003. In an effort to expedite the long delayed prosecution of this application, this substitute Appeal Brief is being submitted. This is an appeal from the final rejection of the claims in the above-identified application. A Notice of Appeal was mailed on October 14, 2003.—The fees required under 37 C.F.R. §1.17 are—were being—previously submitted on December 13, 2003.—herewith. —This brief is being submitted in triplicate. The appendix of claims is attached hereto.

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I. REAL PARTY IN INTEREST

The real party in interest in this Appeal is:

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II. RELATED APPEALS AND INTERFERENCES

There are no directly related appeals or interferences regarding this application.

III. STATUS OF CLAIMS

Claims 1-15 are pending in the application and have been finally rejected. All claims stand rejected.

The claims on appeal are claims 1-15.

IV. STATUS OF AMENDMENTS

An Amendment after Final was filed on June 10, 2003 in response to the Office Action mailed April 14, 2003. The amendment was ~~not entered~~denied entry as indicated in the Advisory Action mailed August 22, 2003 (Paper No. 25).

V. SUMMARY OF INVENTIONCLAIMED SUBJECT MATTER

~~The present invention is~~Claims 1, 7, and 8 are directed to determining the position of a mobile communications device or mobile station 16 within a cellular network (Abstract, FIG. 4). A cellular radio telephone network is made up of base transceiver stations (BTS) 1-6, each serving a corresponding geographical cell area. Base station controllers 7, 8 each control a respective subset of base transceiver stations. A mobile switching center 9 is linked to the base station controllers 7, 8 and a short Message Service – Service Centre (SMS-SC) 10 (Page 6, lines 15-19; FIG. 4).

If a network application 14, 15 makes a request to the Mobile Positioning Center 13 to determine the position of a mobile station 16, a “locating list” of base transceiver stations suitable for determining the position of a mobile station served by that base transceiver station is transmitted to the mobile communication device 16 from the cellular network (Fig. 4; Page 7, lines 26- 30). The data comprises a pre-determined list of radio channels corresponding to respective radio transmitters of the cellular network. For each of the base transceiver stations 1-6, the mobile positioning center 13 holds a “locating list”. The mobile positioning center 13 selects the set of base transceiver stations corresponding to the serving base transceiver station, and this set or list is transmitted to the mobile station 16 via the serving base transceiver station (Page 7, lines 35-37).

The predetermined list is determined beforehand on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination (page 8, lines 4-5). A base transceiver station suitable for use in position determination can be relatively remote from the mobile station 16 as only a unidirectional radio link from the base transceiver station to the mobile station 16 is required (page 8, lines 1-3). The important point is that the identified base transceiver stations have an optimal, or near optimal, geometry for position determination (Page 8, lines 1-5).

The mobile communication device 16 can monitor signals received from base transceivers station and listens on the identified channels, or on other channels that exclude the identified channels (page 6, line 31; page 7 line 8; page 8, lines 8-11). The mobile communication device 16 can determine, from the information being transmitted over the listened to channels, data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels (Page 8, lines 23-30; Page 9, lines 14-25). Two terminals, such as terminal 17, 18 of FIG. 4 can be used. Using the determined data values, the position of the mobile communication device 16 can be determined (Page 9, lines 4-6, and lines 24-25 see also MPC 13, FIG.4, page 9, lines 7-25).

Applicants' invention dynamically notifies a mobile station 16 of base transceiver stations 1-6 suitable for position determination purposes, or of base transceiver stations to be excluded from the use in such determinations (page 3, lines 9-12). The suitable base transceiver stations have an optimal or near optimal geometry for position determination (Page 8, lines 4-5).

VI. ISSUES GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-8, 11-13 and 15 are anticipated by International Publication WO 96/35306 under 35 U.S.C. §102(b).
2. Whether claims 9, 10 and 14 are unpatentable over International Publication WO 96/35306 in view of Kingdon et al. (U.S. Patent No. 6,138,003) under 35 U.S.C. §103(a).

~~VII. GROUPING OF CLAIMS~~

The claims do not stand or fall together.

The claims are grouped as follows:

Group 1: Claims 1 5 ~~11 13~~ and 15

~~Group 2: Claim 6~~

Group 3: Claim 7

Group 4: Claim 8

Group 5: Claims 9 and 10

Group 6: Claim 12

Group 7: Claim 14

VIII. ARGUMENT

1. Rejection under 35 U.S.C. §102(b) Claims 1-8, 11-13 and 15 stand rejected by International Publication WO 96/35306 ("the '306 Publication") under 35 U.S.C. §102(b). The '306 Publication does not disclose or suggest each feature and element of Applicants' invention, according to claims 1-8, 11-13 and 15, as is required to establish a *prima facie* case of anticipation under 35 U.S.C. §102(b).

It is well settled that a claim is anticipated "only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (See CHISOLM, Federal Circuit Guide, Pg. 1221). A reference only anticipates a claim if the reference discloses every element of the claims. Scripps Clinic & Res. Found. v. Genentech, Inc., 927 F.2d 1565, 1576 (Fed. Cir. 1991); 18 USPQ2d 1001. The lack of or absence from the reference of any one of the claimed features of the invention will negate anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571 (Fed. Cir. 1986); 230 USPQ 81.

Applying this standard to the '306 Publication it becomes clear that the '306 Publication does not teach and lacks significant elements recited in independent claims 1, 7 and 8. For example, there is no provision in the system of the '306 Publication to provide a pre-determined list in accordance with geometrical requirements for position determination. The '306 Publication does not disclose or suggest precision location determination where the coarse position of a mobile station 16 is used as input data to select the correct pre-determined list of base transceiver stations to be used for location determination, and in which the lists of base transceiver stations are generated on the basis of geometrical considerations in order to provide advantageous angles for the precise location determination.

Equivalent language is contained in claims 7 and 8. Since these elements of Applicants' invention do not form any part of the system of the '306 Publication, there would be no

infringement, if the '306 Publication was later. Therefore, the '306 Publication does not support the rejection by the Examiner based on anticipation.

A. CLAIMS 1, 7, AND 8

Claim 1 is directed to determining the position of a mobile communications device within a cellular network. To this end, Applicants' invention transmits data to the mobile communication device from the cellular network. The data identifies to the mobile communication device a "pre-determined list of radio channels corresponding to respective radio transmitters of the cellular network." As recited in ~~claims~~claims 1, 7 and 8 and 8, the list is determined beforehand on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination. This is not disclosed or suggested by the '306 Publication. The '306 Publication deals with cellular radio location. In the '306 Publication, each base station holds information relating to itself and "six nearby base stations." (Page 9, lines 15-17). The information or data includes the radio frequency of each base station's (B-G) BCCH. This information allows the mobile unit to periodically sample the signal quality of each base station's BCCH. "Handovers" can then take place based on the results of the sampling (page 9, lines 19-23). This is not the same as the "pre-determined list" from Applicants' invention.

In the '306 Publication, only four of the "nearby base stations" are used (Page 9, lines 16-18). The "four in question" are the ones "providing the strongest signal at the mobile unit M." (Page 9, lines 18-19). Although the Examiner equates the "information" being held by each base station in the '306 Publication with the "pre-determined" list claimed by Applicants, that is not the case.

In the '306 Publication, the four "nearby" base stations are the ones providing the strongest signals. This necessarily implies that the signals must be periodically sampled

to determine which are the strongest. Signal strength can vary due to any one of a number of factors. This is not the same as what is claimed by Applicants.

In accordance with the present application, there is a pre-determined list for each geometrical location. Therefore, the same pre-determined list will be sent to a mobile host residing in the same location independently of any conditions related to signal strength, such as for example time or weather. The pre-determined list of the present application is generated beforehand for each geometrical position. The list takes into account geometrical requirements for position determination (see page 8, lines 4 to 5 of the present application). Therefore, it should be easier to get more accurate results by using the method of the present application. These geometrical aspects are not disclosed or suggested by the '306 Publication.

In the '306 Publication, the information regarding the four "nearby" base stations depends on which stations are providing the strongest signals. Thus, the "information" in the '306 Publication cannot be "pre-determined" as claimed by Applicants, but rather has to be determined based on signal strength. As is well known in the art, signal strength can vary for any one of a number of reasons.

For example, due to the selection mechanism of the system described in the '306 Publication, it is very clear that the base stations whose information is sent to the mobile unit M may vary depending, for example, on weather or other conditions. In other words, according to the arrangement of the system of the '306 Publication, it may well be that a different set of base stations would be used for position determination at one moment in time than would have been used beforehand or even afterwards even if the mobile unit's location were exactly the same. So clearly, in the '306 Publication the list or information will vary, unlike Applicants' "pre-determined list."

In Applicants' invention we dynamically notify a mobile station of base transceiver stations that are suitable for position determination purposes. For each base

transceiver station, the mobile positioning center 13 holds a "locating" list of other base transceiver stations suitable for determining the position of a mobile station served by that base transceiver station (Page 7, lines 26-31).

Upon receipt of a positioning request, the mobile positioning center determines which base transceiver station is the serving base transceiver station. Once the serving base transceiver station is determined, the mobile positioning center selects the set of base transceiver stations that corresponds to the serving BTS and transmits the list to the mobile station (Page 7, lines 33-37). Significantly, the identified base transceiver stations have an optimal, or near optimal, geometry for position determination (Page 8, lines 4-5). This is distinct from a handover list of base transceiver stations, which is the focus of the '306 Publication.

In the system disclosed in the '306 Publication "handover" lists are used also for positioning purposes. "Handovers" allow a mobile station to be handed off from one base transceiver station to another base transceiver station, as the mobile station moves, for example. The mobile station can periodically sample the signal quality of each BCCH and allow handovers to take place based on the results of this sampling (Page 9, lines 20-23). In the '306 Publication the mobile station receives for positioning purposes locations of the nearby base stations and their relative offset timing information that enables the mobile station to perform distance measurements efficiently between a multitude of possible channels (Page 9, lines 26-27). This information has nothing to do with the pre-determined list of base stations as is claimed by the applicants. The "list" of base stations in the '306 Publication is not generated for positioning purposes, but rather for handover, and only takes signal quality into account, not geometrical position.

The "list of radio channels" according to Applicants' invention as recited in claims 1, 7 and 8 corresponds to each approximate position having been generated beforehand using the geometrically best combinations coupled with practical measurements taking

local conditions into account for each approximate position (Page 8, line 4-5). This is different than using solely "handover" signal quality as in the '306 Publication, because, for example, two channels using a transmitting antenna on the same mast might be good for handover, but are absolutely useless for positioning.

As recited in claims 1, 7 and 8, the list of radio channels is transmitted to the mobile communication device where the list is treated as a command, causing the mobile station to listen on the channels and use the "data values" related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels for Observed Time Difference (OTD) measurements. The list can alternatively indicate channels that for geometric or other reasons should not be used. In Applicants' invention, such channels are included or excluded as needed. The results of the OTD measurements can be used to determine the position of the mobile communication device (Page 9, lines 4-6).

According to Applicants' invention, the list to be sent to the mobile station is selected based on "the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination." This will cause a more exact position to be determined.

The '306 Publication does not disclose or suggest "causing the mobile communication device to listen on said identified channels, or on other channels excluding said identified channels, and to determine from information transmitted over the listened to channels data values related to the relative geometry" as recited by Applicants in claims 1, 7 and 8. By forcing a mobile communications device to use preselected radio transmitters for position determination measurements, or by excluding certain radio transmitters, the measurement process may be optimized for any given geographical area (Page 3, lines 30-33). In the '306 Publication only the nearby base stations that provide the strongest signal at the mobile unit M are used (Page 9, lines 16-19). Moreover, the '306 Publication does not suggest in any way excluding certain radio

transmitters from position determination. Thus, since the '306 Publication does not disclose or suggest identifying a list of radio channels, the "list being determined on the basis of the approximate position of the mobile communication device," claims 1, 7 and 8 are not anticipated.

B. CLAIM 6

Since the above noted features are not disclosed or suggested by the '306 Publication, a *prima facie* case of anticipation under 35 U.S.C. §102(b) cannot be established. Therefore, claims 1, 7 and 8 should be allowable.

Claim 6 is not disclosed or suggested by the '306 Publication. Claim 6 recites that the list of radio channels identified to the mobile device contains those channels that the mobile device should try to listen to in order to obtain "data" values from which the position of the mobile device can be determined. As noted above, in the '306 Publication no list for positioning purposes is provided to the mobile station. Thus, the '306 Publication does not disclose or suggest obtaining "data values" as claimed and described for position determination.

C. CLAIM 12

Claim 12 is not disclosed or suggested by the '306 Publication. Claim 12 recites that the "predetermined list comprises a list of radio transmitters in the network suitable to determine the position of the mobile communications device being served by a serving radio transmitter, based on a respective location of each radio transmitter." The "information" in the '306 Publication is the "nearby" base stations for handover purposes, not radio transmitters suitable to determine the position of the mobile device. Thus, claim 12 cannot be anticipated.

D. CLAIMS 2-5, 11, 13 AND 15

Claims 2-5, 11, 13 and 15 are allowable at least in view of each respective dependency.

2. Claims 9-10 and 14 are not unpatentable over the '306 Publication in view of Kingdon et al., U.S. Patent No. 6,138,003 ("Kingdon") under 35 U.S.C. §103(a). The combination of the '306 Publication and Kingdon does not disclose or suggest each feature of claims 9, 10 and 14, and there is no motivation to combine the references as is required.

———In order to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), each claimed element of Applicants' invention must be disclosed or suggested by the combination of references. (See M.P.E.P. §2142) As noted above, the '306 Publication does not disclose all of the features of claim 1. Claims 9, 10 and 14 depend from claim 1. Kingdon does not overcome the deficiencies of the '306 Publication, and the claims should be allowable for at least this reason.

There is no suggestion or motivation to modify the references as proposed by the Examiner. A *prima facie* case of obviousness under 35 U.S.C. §103(a) requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. There must also be a reasonable expectation of success, and the reference(s), when combined, must teach or suggest all of the claim limitations. (See M.P.E.P. §2142). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hospital Systems, Inc. v. Montifiore Hospital et al., 221 U.S.P.Q. 929, 933 (CAFC 1984). Prior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings. In re Sernaker, 217 U.S.P.Q. 1, (CAFC 1983). In short to "imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312 (CAFC 1983).

The Examiner's proposition that Applicants' invention would be obvious as recited in the claims is not supported by the factual contents of either the '306 Publication or Kingdon. The references themselves and/or the knowledge generally available to one of skill in the art does not provide the requisite motivation or suggestion to modify the reference as proposed for purposes of 35 U.S.C. §103(a). When "the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference". In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). The Examiner has not provided an indication as to where any such teaching, suggestion or motivation appears in the references. The Examiner states that the Kingdon reference is being used solely for "specifically storing a pre-determined list in [a] mobile positioning center." However, it is respectfully submitted that the list in Kingdon is not the same as the pre-determined list of Applicants' invention. Kingdon has a list of valid agencies that can request positioning information. Kingdon does not teach a pre-determined list determined beforehand on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination. Absent such a teaching, it is submitted that a *prima facie* case of obviousness over the '306 Publication in view of Kingdon under 35 U.S.C. §103(a) is not established.

Thus, it is submitted that it would not have been obvious to a person skilled in the art to apply the teachings of Kingdon to an actual positioning process. On the contrary, starting from the '306 Publication and taking the teachings of Kingdon into account, a person skilled in the art would have come up with a positioning solution according to the '306 Publication, wherein it is additionally verified that a request by an agency to determine the positioning of a mobile device by a requestor is allowable, by comparing the requesting agency to a list of approved agencies.-

A. CLAIM 9

Furthermore, Claim 9 recites that the pre-determined list is stored in a central element for each respective radio transmitter in the cellular network. The '306 Publication in view of Kingdon does not disclose or suggest this feature of Applicants' invention. The Examiner states that Kingdon teaches storing in a central element a pre-determined list for each respective radio transmitter. This is not an accurate statement with respect to Applicants' invention. The Examiner is right in that Kingdon teaches storing a pre-determined list in a central element. However, the pre-determined list of Kingdon is unlike Applicants'. In Kingdon, the list is a list of valid agencies, which are authorized to position mobile devices (Column 4, rows 57-66), and not a list of radio channels as recited in claim 1 of Applicants' invention. In Kingdon, the local or home MPC 270 must verify the identity of the requesting agency 280 and the authority of that agency 280 to request positioning (Column 4, lines 59-61). Kingdon teaches using a pre-determined list of agencies (location nodes) stored within a database or mobile identities, which can be cross-checked against a list of agencies that are allowed to position each mobile unit (Column 4, lines 62-66 and Column 5, lines 12-25). Kingdon does not even mention a pre-determined list of radio-channels for position determination. Rather, the "list" in Kingdon is merely for verification purposes, and not positioning. Further, Kingdon does not teach transmitting to a mobile communication device data related to the pre-determined list. Instead, in Kingdon, the pre-determined list is used for evaluating. The list is only used to determine whether an agency is allowed to position a mobile device. The actual positioning of the mobile device is conducted only after that, but unlike Applicants' invention, the data from this list is not transferred to the mobile device. Kingdon does not teach a specific way to position the mobile device. Thus, neither the '306 Publication nor Kingdon discloses or suggests each feature of Applicants' invention as recited in claim 9. Therefore, a *prima facie* case of obviousness over claim 9 cannot be established.

B. CLAIM 14

Claim 14 is also not disclosed or suggested. Claim 14 recites that the pre-determined list of radio channels corresponding to radio transmitters is independent of a signal transmission strength between each radio transmitter and the mobile communications device. This is not disclosed or suggested by the '306 Publication in view of Kingdon. The Examiner notes, on page 5 of paper No. 22 (April 14, 2003), the '306 Publication does not teach the features recited in claim 14. However, neither does Kingdon. Column 6, line 64 to Column 7, line 37 merely describes obtaining positioning data from the serving BTS, and using positioning methods based on triangulation or obtaining timing advance values. There is no disclosure or suggestion that the "list of agencies (location nodes) stored within a database 275" is independent of a signal transmission strength between each radio transmitter and the mobile communications device (Column 4, lines 62-65).

~~Additionally, Applicants also submit that there is no suggestion or motivation to modify the references as proposed by the Examiner. A *prima facie* case of obviousness under 35 U.S.C. §103(a) requires some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. There must also be a reasonable expectation of success, and the reference(s), when combined, must teach or suggest all of the claim limitations. (See M.P.E.P. §2142). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hospital Systems, Inc. v. Montifiore Hospital et al., 221 U.S.P.Q. 929, 933 (CAFC 1984). Prior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings. In re Sernaker, 217 U.S.P.Q. 1, (CAFC 1983). In short to "imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to~~

the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312 (CAFC 1983).

~~The Examiner's proposition that Applicants' invention would be obvious as recited in the claims is not supported by the factual contents of either the '306 Publication or Kingdon. The references themselves and/or the knowledge generally available to one of skill in the art does not provide the requisite motivation or suggestion to modify the reference as proposed for purposes of 35 U.S.C. §103(a). When "the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference". In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). The Examiner has not provided an indication as to where any such teaching, suggestion or motivation appears in the references. The Examiner states that the Kingdon reference is being used solely for "specifically storing a pre-determined list in [a] mobile positioning center." However, it is respectfully submitted that the list in Kingdon is not the same as the pre-determined list of Applicants' invention. Kingdon has a list of valid agencies that can request positioning information. Kingdon does not teach a pre-determined list determined beforehand on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination. Absent such a teaching, it is submitted that a *prima facie* case of obviousness over the '306 Publication in view of Kingdon under 35 U.S.C. §103(a) is not established.~~

~~Thus, it is submitted that it would not have been obvious to a person skilled in the art to apply the teachings of Kingdon to an actual positioning process. On the contrary, starting from the '306 Publication and taking the teachings of Kingdon into account, a person skilled in the art would have come up with a positioning solution according to the '306 Publication, wherein it is additionally verified that a request by an~~

~~agency to determine the positioning of a mobile device by a requestor is allowable, by comparing the requesting agency to a list of approved agencies.~~

3. CONCLUSION

Therefore, in view of the foregoing it is respectfully submitted that claims 1-8, 11-13 and 15 are not anticipated by the '306 Publication and that claims 9, 10 and 14 are not unpatentable over the '306 Publication in view of Kingdon.

~~A check in the amount of \$320 is enclosed herewith for the appeal brief fee. The Commissioner is hereby authorized to charge payment for any additional fees associated with this communication or credit any over payment to Deposit Account No. 16-1350 .~~

~~Respectfully submitted ,~~

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~~IX. APPENDIX OF CLAIMS~~VIII. CLAIMS APPENDIX

The texts of the claims involved in the appeal are:

1. A method of determining the position of a mobile communications device within a cellular network, the method comprising the steps of:

transmitting data to the mobile communication device from the cellular network, said data identifying to the mobile communication device a pre-determined list of radio channels corresponding to respective radio transmitters of the cellular network, said pre-determined list having been determined beforehand on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position_determination; and

causing the mobile communication device to listen on said identified channels, or on other channels excluding said identified channels, and to determine from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

determining the position of the mobile communication device using said determined data values.

2. A method according to claim 1, wherein said transmitters are provided by respective base transceiver stations and the data transmitted to the mobile device identifying the list of radio channels comprises a set of radio channel numbers known to the mobile device.

3. A method according to claim 1, wherein said data values are time relationship values related to the transmission delay times between the mobile device and the radio transmitters transmitting the listened to channels.

4. A method according to claim 3, wherein the time relationship values are Observed Time Differences (OTD) each being the difference between the transmission delay time between the mobile device and one of the radio transmitters transmitting the listened to channels, and the transmission delay time between the mobile device and a radio transmitter of a base transceiver station currently serving the mobile device.

5. A method according to claim 3, wherein said time relationship values are sent by the mobile communications device to the network where said determining step is carried out.

6. A method according to claim 1, wherein the list of radio channels identified to the mobile device contains those channels which the mobile device should try to listen

to in order to obtain said data values from which the position of the mobile device can be determined.

7. Apparatus for determining the position of a mobile communications device within a cellular network, the apparatus comprising:

a base transceiver station for transmitting data to the mobile communication device from the cellular network, said data identifying to the mobile communication device a pre-determined list of radio channels corresponding to respective radio transmitters of the cellular network, said pre-determined list having been determined on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination;

a radio receiver at the mobile communication device for listening on said identified channels, or on other channels excluding said identified channels;

first signal processing means coupled to said radio receiver for determining from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

second signal processing means for computing the position of the mobile communication device using said determined data values.

8. A mobile communications device comprising:

a radio receiver for receiving data transmitted from a servicing base transceiver station of a cellular radio network, said data identifying to the mobile communication device a pre-determined list of radio channels corresponding to respective radio transmitters of the cellular network, and said pre-determined list having been determined on the basis of the approximate position of the mobile communication device and in accordance with geometrical requirements for position determination, and said radio receiver being arranged to listen on said identified channels, or on other channels excluding said identified channels;

first signal processing means coupled to said receiver for determining from information transmitted over the listened to channels data values related to the relative geometry of the mobile communication device and the radio transmitters transmitting the listened to channels; and

a radio transmitter for transmitting said determined data values to said serving base transceiver station.

9. The method of claim 1 further comprising the step of storing in a central element a pre-determined list for each respective radio transmitter in the cellular network.

10. The method of claim 9 wherein the central element is a mobile positioning center.

11. The method of claim 1 further comprising the step of causing the mobile communications device to use pre-selected radio transmitters in the cellular network for position determination measurements.

12. The method of claim 1 wherein the pre-determined list comprises a list of radio transmitters in the network suitable to determine the position of the mobile communications device being served by a serving radio transmitter, based on a respective location of each radio transmitter.

13. The method of claim 1 wherein each radio transmitter in the network has a corresponding pre-determined list of associated radio transmitters in the network.

14. The method of claim 1 wherein the pre-determined list of radio channels corresponding to radio transmitters is independent of a signal transmission strength between each radio transmitter and the mobile communications device.

15. The method of claim 1 further comprising the step of pre-storing the pre-determined list of radio channels by associating other radio transmitters based on position with a selected serving radio transmitter, wherein each radio transmitter in the network has an associated stored pre-determined list.

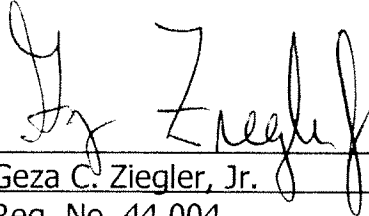
IX. EVIDENCE APPENDIX

Not Applicable.

X. RELATED PROCEEDING APPENDIX

Not Applicable.

Respectfully submitted,



13 NOV 2006

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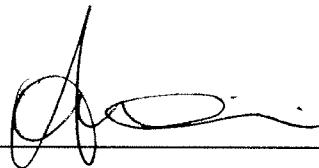
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